

We Claim:

1. A method of operating a nickel-metal hydride battery,  
comprising:

5       providing a nickel-metal hydride battery;  
          determining the ambient temperature of said battery;  
and

          setting the state of charge of said battery, said  
state of charge at least partially dependent upon said  
10   ambient temperature.

2. The method of claim 1, wherein setting step comprising  
the steps of:

          if the ambient temperature is below a first  
15   temperature, then setting said state of charge to a first  
value; and

          if the ambient temperature is above a second  
temperature, said second temperature being greater than or  
equal to said first temperature, then setting said state of  
20   charge to a second value less than said first value.

3. The method of claim 2, wherein said second temperature  
is equal to said first temperature.

4. The method of claim 2, wherein the first value of said state of charge is greater than 70%.

5. The method of claim 2, wherein the first value of said state of charge is between 70% and 90%.

6. The method of claim 4, wherein the second value of said state of charge is less than 60%.

7. The method of claim 5, wherein the second value of said state of charge is between 40% and 60%.

8. A method of operating a nickel-metal hydride battery, comprising:

providing said nickel-metal hydride battery, said battery being at an ambient temperature of  $-20^{\circ}\text{C}$  or less; and

converting a portion of the chemical energy of said battery to thermal energy.

9. The method of claim 8, wherein said converting step decreases the charge transfer resistance of said battery.

10. The method of claim 9, wherein said converting step comprises the step of discharging said battery.

11. The method of claim 10, wherein said discharging step  
5 comprising the step of applying a short circuit across said battery for a finite period of time.

12. The method of claim 8, wherein said battery is provided having a temperature of  $-25^{\circ}\text{C}$  or less.

10

13. The method of claim 8, wherein said battery is provided having a temperature of  $-30^{\circ}\text{C}$  or less.

14. The method of claim 11, wherein said short circuit is  
15 applied for 10 seconds or less.

15. A method of operating a nickel-metal hydride battery to apply power to a load, comprising the steps of:

providing said nickel-metal hydride battery;

20 applying a short circuit across the terminals of said battery for a finite period of time;

after applying said short circuit, electrically coupling said battery to said load.

16. The method of claim 15, wherein said short circuit is applied while said battery is electrically disconnected from said load.

5 17. The method of claim 15, wherein said load comprises a starting and/or ignition circuitry of a vehicle.

18. The method of claim 15, wherein said load comprises a lighting circuitry of a vehicle.

10

19. The method of claim 15, wherein said short circuit is applied for 10 seconds or less.